

METHOD FOR MAKING MATERIALS HAVING ARTIFICIALLY DISPERSED NANO-SIZE PHASES AND ARTICLES MADE THEREWITH

Abstract of Disclosure

A method for forming a nanocomposite material and articles made with the nanocomposite material are presented. The method comprises providing a molten material; providing a nano-sized material, the nano-sized material being substantially inert with respect to the molten material; introducing the nano-sized material into the molten material; dispersing the nano-sized material within the molten material using at least one dispersion technique selected from the group consisting of agitating the molten material using ultrasonic energy to disperse the nano-sized material within the molten material, introducing at least one active element into the molten material to enhance wetting of the nano-sized material by the molten material, and coating the nano-sized material with a wetting agent to promote wetting of the molten metal on the nano-sized material; and solidifying the molten material to form a solid nanocomposite material, the nanocomposite material comprising a dispersion of the nano-sized material within a solid matrix.

Figures